

EQUITY LEGAL GROUP

8002 WISCONSIN AVENUE, 2nd FLOOR
BETHESDA, MD 20814

OFFICE - 301-913-0060
FAX - 301-913-5415

Author's Telephone - 301 913-0060 x26
E-mail - rgimer@equitylegalgroup.com

Introduction. Bonded foam carpet cushion consists of 100% recycled foam, a mix of varying percentages of post-industrial and post-consumer scrap foam. Under general industry practice, the percentage of take-up foam cushion used in new bonded, if any, varies between 5% - 20% (for medium density products) and 30% - 55% (for high density products). Prior to mid-2005, PentaBDE could have been present both in the post-industrial and post-consumer scrap foam used to make new bonded. Since mid-2005, the only source of PentaBDE in new bonded is the post-consumer scrap portion of the mixture.

Erroneous Assumptions Regarding the PentaBDE-Content of Pre-2005 Bonded Cushion. Erroneous assumptions about the PentaBDE-content of new bonded cushion produced pre-2005 appear to be being made. These assumptions lead in turn to erroneous assumptions about the quantity of PentaBDE available to "escape" bonded cushion during the period of its use.

It has been stated in published literature that the PentaBDE-content of "foam" varies from 5% - 30%. Such assessments may derive from opinions about the amount PentaBDE that would be required to enable a "foam" to meet particular flammability requirements such as Cal. Tech. Bull. No. 117. Whatever the derivation of the position, it appears to have been translated into an assumption that the PentaBDE-content of new bonded cushion (prior to 2005 when PentaBDE ceased to be in post-industrial foam scrap) must have been at least 5% -10%. This is not the case. The PentaBDE in bonded cushion does not function as a flame retardant. It is present solely because it is in foam cushion scrap originally produced for other end uses.

PentaBDE Content of Pre-2005 Bonded Cushion. In 2004, the Carpet Cushion Council commissioned a set of tests on new bonded cushion to assess the extent to which, if any, PentaBDE in bonded could be volatilized in the course of its use. To make this assessment, the foam to be tested needed to contain the amount of PentaBDE typified by bonded produced from PentaBDE-containing post-industrial scrap. The result of these tests showed that the amount of PentaBDE volatilized, if any, was undetectable. The PentaBDE-content in the foam samples was determined to be 0.566% and 0.807%, by weight.

PentaBDE Content of 2005 Take-Up or Post-Consumer Cushion Scrap. In 2005, tests conducted under the auspices of the Carpet Cushion Council on take-up foam scrap collected from 14 locations in 12 cities across the United States, indicated that the mean PentaBDE-content in take-up scrap foam (post-consumer scrap) was 0.313% by weight.

Bonded Cushion as a Potential Source of PentaBDE in House Dust. To the extent PentaBDE is “escaping” from bonded during the 5 -15 year useful life of a carpet (and the cushion underneath it), if at all, the amount would appear be confined within the difference between the new product (assessed in 2004) and the take-up product (assessed in 2005), i.e., the difference between 0.566 - 0.807% PentaBDE by weight and 0.313% by weight.

PentaBDE Content of Current Production Bonded Foam Carpet Cushion. Based upon tests conducted on behalf of the Carpet Cushion Council in late 2005, the mean PentaBDE-content of current production new bonded carpet cushion is 0.12 % - 0.13%, by weight.

PentaBDE Content of Recyclables/Recycled Products Proposed to be Exempted. A mean PentaBDE-content of 0.313% by weight can be expected to characterize the take-up foam cushion scrap for the next five years, that is until bonded manufactured without any PentaBDE in the post-industrial scrap component (beginning in 2005) begins to be a part of the product being taken up from floors as carpet is replaced. It is this material that an exemption would permit to continue to be recycled. The mean PentaBDE content of the new bonded product made from this scrap is 0.12% - 0.13%, by weight. Beginning in about 2011, at which point the post-consumer scrap then being collected for recycling will consist, in part, of post-2005 bonded cushion production, the PentaBDE-content of new bonded produced with such scrap should begin a decline from the 0.12% - 0.13% by weight level, to a level below 0.1%, with few exceptions.

The End-of-Life Public Policy Options. Based upon the information now available, (a) foam relegated to the landfill will have a mean PentaBDE content of 0.313% while the same foam, when recycled into new bonded, will have a resulting mean PentaBDE content of 0.13%; (b) reducing the amount of take-up scrap that could be used in new bonded to the extent required to bring the PentaBDE-content of new bonded below 0.1% by weight (the limit enacted by several states) would, on a national basis, relegate an additional 45 - 60 million pounds of post-consumer foam cushion to landfills annually; (c) a PentaBDE ban with no tolerance would, on a national basis, relegate an additional 300 to 400 million pounds of post-consumer foam cushion to landfills annually. As a matter of public policy, this choice frames the options for dealing with post-consumer foam cushion scrap.

Because bonded foam carpet cushion represents 86% of US annual sales of carpet cushion (all types), the inability to continue to utilize post-consumer scrap foam in its production will be off-set by substitution of imported post-industrial scrap foam to the extent available, and, absent its availability, would lead to the manufacture of foam for the purpose of converting it into new bonded cushion at a very significant raw materials cost premium.

For the Carpet Cushion Council by Richard Gimer [Washington Ecology EAC 3/15/06]